

ABSTRACT

An air conditioner having in a refrigeration cycle a fixed displacement-type first compression mechanism and a variable displacement-type second compression mechanism independent from each other, and having second compression mechanism displacement control means, compression mechanism operation switching control means, an evaporator for refrigerant, a condenser, a blower, and second compression mechanism feedforward compression displacement calculation means, wherein the compression displacement calculation means calculates the compression displacements during sole operation of the second compression mechanism and during simultaneous operation of the first and second compression mechanisms by using calculating equations different from each other. By carrying out optimum feedforward or/and feedback control in any of different operation conditions, stable adequate air-conditioning control is possible for required cooling performance.